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THE COLORATION OF BIRDS' EGGS.

By J. W. Winson.

The coloration of birds' eggs, a subject fascinating to the incipient ornithologist, is generally neglected for other avenues of interest as bird study progresses, and beyond the general rule that bush birds stain their eggs blue and blotch them with brown; that ground birds give theirs a brown mottled appearance; and that hole-nesting birds dispense with pigmentation altogether; little care, apparently, has been given to the variations in the color marks of the eggs of various species.

The "general rule" states that birds nesting in trees and bushes, where leaf shadows shed security, will give their eggs a ground color of blue or blue green, variously dotted, blotched, or streaked with shades of brown, such coloration giving practical immunity from marauding crow or hawk.

Rules rejoice in exceptions in this world of compromise, and the critic is but carping when he mentions the unspotted clarity of the Catbird and Robin eggs; deep in stain, truly, but in the same thicket may be found the little nest of the Lazuli Bunting, where the blue is so pale as to be nearly white! Near it, too, may be a warbler that uses no blue at all!

And if the blue-green base is essential to all eggs laid in green shadows, then the Meadow-lark's in cleanest white and brightest pink is certainly "off color," as,,although it is domed and on the ground, the nest is dominated by the green of the grass.

Buff is the correct camouflage for ground nesting birds, but while some use it solidly, as pheasant and partridge, others take it but in spots, and ducks not at all. Probably the web-footed folk are really reed-nesters, supposedly hiding their eggs under a dome of darkness.

The waders use pigment unsparingly and "protect" their eggs in this way most successfully. It is difficult to determine, even when a few feet away, whether the nest may contain any treasures. Noting the security thus afforded, the long-limbed Heron flies up to a tree top and there deposits the most conspicuous eggs imaginable!

Owl and Kingfisher need no markings in the darkness of their caverns. Woodpeckers similarly can dispense with pigment, but the Sparrow Hawk, using their holes, splotches hers with all the lavish extravagence that is usual in birds of prey.

The Pigeon, leaving the rock crevice and stump hole for the more open bush, has not yet learnt the advantage of rouge, but it is suspected that this is a degenerate bird in several ways, and this will be one of the contributory causes of its ultimate extermination.

The Cormorant surely is a freak. Ready with pigmentation in abundance, it smears a sky-blue egg with a coating of chalky white, making its eggs not less but more noticeable, a veritable clown among the egg-layers, but paying for this frivolity in heavy penalties, as crow and gull find them easy marks along the cliff edges.

Pigmentation certainly must be regarded as a step upward in evolution, but it has not marched with other advances. While the Passerines are on the highest rung of the avian ladder, the heaviest egg-markings are to be found among the gulls.

This principle is suggested with trepidation, to follow the "general rule," that as the greatest variation in egg markings is to be found among those having the largest amount of pigmentation, the highest colored eggs are laid by the youngest birds, and in any one clutch of eggs, the last laid carries the least coloring.

This is suggested as a rule for both bush birds and sea birds. The great variableness in Brewer's Blackbirds, in the lovely stains of the Redwings,

in the deep blotches of the Snipe, as well as the manifold markings of the gulls, would all seem to be due to a difference in age. The young hen starts out with well-filled pigment glands and uses her paints liberally, falling off even in her first clutch. Should she lay a second brood the same year, these will be uniformly paler. As the years go on the coloring matter will be used more sparingly, and, excepting of course individual malformation or ill health, the eggs of the lowest coloration in any species will be laid by the oldest birds.

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CROSSBILLS FEEDING ON SALT.

By L. D. Lindsley.

The following observations were made mostly in the winter time while a flock of these birds stayed around my studio on Lake Chelan, eastern Washington. Noticing them one day on an old hypo barrel that was out in the snow, I saw that they were running their tongues along on the crystalized hypo. After watching them for several days at this procedure, it occurred to me they were hunting salt. Cleaning the snow from a spot of ground, I sprinkled it with salt. The birds soon found it and I had a bunch of friends for the rest of the winter. In the morning when I went to the studio the birds would be waiting for their nip of salt. Needless to say my camera was on the job during the winter and I obtained a number of pictures of these interesting birds. The largest number of birds I saw in the flock at one time was twenty-eight -- all on the ground together.

While the flock was eating salt there was always from one to two sentinels. The guards always had their heads on one side, looking into the air for hawks, no doubt. At times the whole flock would rise off the ground three or four feet, then all would go back again to their eating. I don't know how the signal was given, but they were certainly uniformly even in arising and alighting.

To get at the salt they would put their heads on one side and run the tongue along the ground. They do this no doubt on account of their crossed bills. There seems to be no regularity in the crossing of the bills as I found birds with the upper bill crossed on the left side of the lower bill and vice versa. In flight these birds are very erratic, with a rapid upward and downward motion. In alighting it doesn't seem to bother them whether they land upside down or wrong side to; they are careless of equilibrium. The male is of a reddish brown color and the female has a light lemon-yellow breast and a dull grey back. The young birds appear before the snow has left the ground.

These birds will also gather around places in the snow where dishwater has been thrown. At times the little Pine Siskin will join them, scolding all the time and trying to pick a scrap. During the winter I counted no less than twelve different kinds of birds that came for salt, among these being the Grosbeak. They seemed to get the idea from the Crossbills. Some of the birds flew down and acted as though they had come to see what was going on. The Crossbills left as soon as spring came and I later came across them during the summer in the pine trees in the mountains. They do not seem to stay long in any one place and live mainly on pine seeds which they dig out of the cones with their sharp pointed bills.